

ACCESSION NR: AT4040558

(011) and (013) commonly in germanium and silicon crystals grown from the gaseous phase by other methods were not observed. Orig. art. has: 4 figures.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR)

SUBMITTED: 00

DATE ACQ: 02Jul64

ENCL:00

SUB CODE: IC, EC

NO REF SOV: 002

OTHER: 001

2/2

Card

SANDULOVA, A.V.; ANDRIYEVSKIY, A.I.; DRONYUK, M.I.

Shapes of growth of germanium and silicon crystals grown from
a gaseous solution. Rost krist. 4:122-124 '64.

Morphology of acicular, whisker and ribbon type silicon
crystals. Ibid.:125-128 (MIRA 17:8)

L 08103-67 EWT(m)/EWP(t)/FTI IJP(c) JD/WW/JG
ACC NR: AP6030780 (A) SOURCE CODE: UR/0363/66/002/004/1684/1685

AUTHOR: Sandulova, A. V.; Bogoyavlenskaya, I. P.; Pyrsko, L. I.

33
B

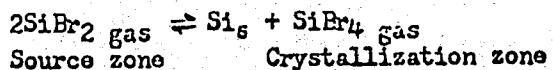
ORG: L'vov Polytechnic Institute (L'vovskiy politekhnicheskiy institut)

TITLE: Effect of impurities on the growth of silicon whiskers from the gaseous phase

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 9, 1966, 1684-1685

TOPIC TAGS: silicon single crystal, single crystal growth, crystal dislocation

ABSTRACT: The effect of the following impurities on the growth of silicon whiskers was studied: Pt, Au, Ag, Cu, Ni, As, Sb, In and O. The crystals were grown in a closed quartz ampoule by means of the disproportionation reaction



Sb, In and O were found to slow down the growth of Si whiskers, and all the remaining impurities to accelerate it. The growth rate was determined as a function of the amount of each individual growth-stimulating impurity. The data obtained are used to explain the influence of the impurity on the crystallization mechanism: the impurity atoms increase the density of dislocations on the crystals of the substrate, thus

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UDC: 546.28:548.552

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ACC NR: AF6030780

promoting the nucleation and growth of the whiskers. Si whiskers grown from both pure Si and Si containing impurities are structurally perfect and free of dislocations. Orig. art. has: 3 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 07Oct65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 L.S

L 00483-66 EPF(c)/EPA(s)-2/EPA(w)-2/EWP(j)/EWT(l)/EWT(m)/EWP(b)/EWA(c)/EWP(i)/
ETC(m)/T/EWP(e)/EWP(v)/EWP(t) IJP(c) GG/RM/WH/WW/JD

ACCESSION NR: AP501259

UR/0181/65/007/005/1581/1582

60

57

8

AUTHOR: Sandulova, A. V.; Mar'yamova, I. I.; Zagonyach, Yu. I.

TITLE: Tensometric effect in fiber single crystals of silicon grown from the gas phase

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1581-1582

TOPIC TAGS: fiber crystal, silicon, single crystal, mechanical stress, strain gauge

ABSTRACT: The authors investigated the tensometric properties of single-crystal silicon whiskers grown from the gas phase by a method described elsewhere (FTT v. 5, 2580, 1963). Crystals obtained by this method have high structural perfection and larger mechanical strength. Both p- and n-type crystals with surfaces having no essential defects were tested. The tests were made by gluing the whiskers to glass or metal bars, which were subjected to pure bending in a special installation. The tension or compression strain of the glued whisker corresponded to the flexural strain of the bar, the deflection of which was determined with a horizontal measuring microscope. The resistance was measured with a dc bridge. The resistance of p-type silicon increased in tension and decreased in compression, while the picture for the n-type silicon was reversed. In the investigated strain range

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ACCESSION NR: AP5012589

(from 1×10^{-4} to 2×10^{-4}) the resistance was linear with the strain for both types of conductivity. The tensometric sensitivity coefficient of p-type crystals ranged from 100 to 140, which was approximately 50--70 times the corresponding value for wire strain gauges. This is in good agreement with both theoretical and experimental data by others. Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: L'vovskiy politekhnicheskiy institut (L'vov Polytechnic Institute)

SUBMITTED: 28Dec64 ENCL: 00 SUB CODE: SS, IE

NR REF Sov: 002 OTHER: 004

KC
Card 2/2

25568
S/185/60/005/002/003/022
D274/D304

247700

AUTHORS: Sandulova, G.V. and Tan Pu-shan

TITLE: Effect of silver on the energy spectrum of copper oxide

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 2, 1960,
150-155

TEXT: The formation of a new acceptor-level in the energy spectrum (0.45 - 0.48 eV) of copper oxide is experimentally verified; the new acceptor-level is formed as a result of the diffusion of silver in copper oxide. The diffusive annealing of the specimens took place in a vacuum of 10^{-4} mm Hg; the annealing lasted 30 to 75 hours, depending on the temperature, which ranged from 600 - 1000°C; (the relation between temperature and annealing time was inversely proportional). The temperature dependence of the electrical conductivity was measured, as well as the Hall coefficient. An analysis of the conductivity curves showed that the activation energy of the specimens varied between 0.26 and 0.48 eV. Two specimens (no. 7,8

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and 9,10) were especially noteworthy, namely those for which the diffusion took place at a temperature of 600 and 800°C respectively; the conductivity of these specimens is due to new energy-levels (of 0.45 and 0.48 eV). These levels are acceptors, since all the specimens are p-type. The latter fact is borne out by measurements of the Hall coefficient. The conductivity of the other specimens corresponded to energy levels of nearly 0.3 eV. The degree of ionization of the copper oxide specimens is evaluated. The expression for the hole-concentration is

$$p = (AN_A)^{\frac{1}{2}} \exp\left(-\frac{E}{2kT}\right) \quad (2)$$

where E is the ionization energy, N_A is the acceptor concentration, A is the effective density of energy levels; it is assumed that the donor-concentration $N_D \ll p$. From Eq. (2) it follows that all specimens were investigated at low temperatures and weak ionization. Table II gives the characteristics of the specimens. A comparison between p and N_A showed that at 20°C all the specimens are weakly ionized ($p \ll N_A$). Hence the increase in activation energy (to the

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values of 0.45 - 0.48 eV) of the two specimens mentioned above, does not depend on the different degree of ionization, but is due to the formation of new energy levels (as a result of the diffusion of silver in copper oxide). As the silver ions are donors, and the new level - acceptors, the new level cannot have been formed directly by the silver ions. The variation in the acceptor concentration, as shown in Table II, can be explained as follows: The sharp reduction in acceptor-concentration is due to excess oxygen in the copper oxide, whereas the increase (in specimens no. 7,8 and 9,10) may be due to the diffusion of silver, which forms Ag_2O with the oxygen (Ag_2O being an acceptor-type impurity). In specimens 11,12 the diffusion of silver leads to the formation of Ag_2O ; Ag_2O does not affect the electrical properties of copper oxide. Ag_2O has a crystalline structure of cuprite type. The magnitude of the copper-oxide conductivity apparently depends on the amount of excess oxygen. An increase in excess oxygen leads to an increase in hole-concentration, and conversely. A comparison of acceptor and hole concentration in specimens 1,2 and 11,12 (Table II) supports the assumption that Ag_2O was formed during the diffusion of silver. At tempera-

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tures of 800°C the possibility of Ag₀ formation decreases, that of Ag₂O - increases, the acceptor concentration remains practically unchanged, and the amount of holes increases slightly (Table II, specimens 9,10). There are 2 figures, 2 tables and 12 references: 5 Soviet-bloc and 7 non-Soviet-bloc.

ASSOCIATION: L'viv's'kyy politekhnicnyy instytut (L'vov Poly-technical Institute)

SUBMITTED: May 13, 1959

Table II Legend: 1 - Hall coefficient; 2 - activation energy, eV; 3 - no. of specimen; 4 - Characteristics of specimens; 5 - mobility; 6 - amount of holes, . 7 - amount of acceptors

4 Характеристика дослідженів зразків.

№ зразка	2 Енергія активації, еВ	1 Коефіцієнт Холла, см ² ·а ⁻¹ ·есл ⁻¹ СССР	5 Рухливості, см ² ·в ⁻¹ ·есл ⁻¹	6 Кількість дрірок	7 Кількість акцепторів
1,2	0,28	+1.20·10 ⁴	96	5·10 ¹¹	10 ¹⁴
3,4	0,28	+2.11·10 ⁴	44	3·10 ¹¹	5·10 ¹³
5,6	0,26	+1.13·10 ⁴	90	6·10 ¹¹	4·10 ¹³
7,8	0,48	+7.50·10 ⁴	90	8·10 ¹¹	4·10 ¹³
9,10 [*]	0,45	+2.39·10 ⁴	95	3·10 ¹¹	3·10 ¹⁴
11,12	0,30	+8.55·10 ⁴	94	7·10 ¹¹	1·10 ¹⁴

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"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7"

M. Sandulovici

Oscillations of potential between the electrodes of a direct-current discharge¹ in nitrogen² // C. Mihail, X. Grosu, D. Grosu, and M. Sandulovici *Analele Stiint.* Univ. "Al. I. Cuza" Iasi, Sect. I, (N.S.) 1-2, 187-94 (1956); cf. C.A. 52, 6024f.—Stable oscillations were observed in 3 pressure regions, from 0.11 to 0.17, 0.23 to 0.50, and 8.5 to 13 mm. Hg, by using freshly polished anodes with a diam. of 1, 1.5, and 2 mm. The use of anodes with a diam. of 3 mm. and larger resulted in unstable or unrepeatable operating conditions. The formation of spots on the surface of the anode favored transitions to lower oscillation frequencies (f) and the appearance of strong harmonics. In the intermediate pressure range, between 0.2 and 0.5 mm. Hg, f was high (about 1 Mc./sec.), and the form of the oscillations simple, almost sinusoidal. In this region f increased, with pressure and with decreasing anode diam. In the low- and high-pressure regions, from 0.11 to 0.17 and 8.5 to 13 mm. Hg, the form of the oscillations was complex and the values of f were of the order of 1 kc./sec. and 10 cycles/sec., resp. In the former region f decreased with increasing pressure, while in the latter the variation of f was complex and exhibited max. and min. The results are compared with similar data for O. S. Alexander Stern

S/194/62/000/001/047/066
D201/D305

AUTHORS: Grosu, D. and Sandulovici, M.

TITLE: The dependence of voltage oscillations in the negative glow of the d.c. oxygen glow discharge on the anode diameter

PERIODICAL: Referativnyy zhurnal Avtomatika i radioelektronika,
no. 1, 1962, 64, abstract 1Zh449 ('An. științ. Univ.
Iasi, 1961, Sec. I.7, no. 1, 143-146)

TEXT: The result of experimental investigations into the dependence of frequency of voltage oscillations in the negative glow of a glow discharge on the anode diameter (0.3, 0.5 and 0.7 mm) at an oxygen pressure 0.1 - 0.22 mmHg. At a constant current (0.5 - 0.25 μ A) the frequency of voltage oscillations increases with decreasing diameter. The authors explain this dependence by the change of the electric field intensity inside the negative glow, due to the change in the anode voltage drop. / Abstracter's note: Complete translation. ✓

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S/058/62/000/009/052/069
A057/A101

AUTHORS: Grosu, X., Sandulovici, R.

TITLE: On the problem of the dependence of spontaneous oscillations of a glow-discharge voltage in oxygen upon the length of the positive column

PERIODICAL: Referativnyy zhurnal, Fizika, no. 9, 1962, 50 - 51, abstract 9Zh299 ("Studii și cercetări științ. Acad. RPR Fil. Iași. Fiz. și științe tehn.", 1960, v. 11, no. 2, 183 - 188, Rumanian; summaries in Russian and French)

TEXT: An inverse dependence of the frequency of voltage oscillations upon the length of the column takes place under conditions of a glow-discharge with anomalous potential drop at a position of the anode in the positive column. These oscillations can be considered as natural oscillations of the positive column, being a linear oscillator. It follows from this that oscillations with a certain natural frequency can be present not only in the discharge column as a whole, but also in single separate homogeneous regions of the column (region of

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A057/A101

On the problem of the...

the negative glow, positive column), corresponding to the position of the anode.

[Abstracter's note: Complete translation]

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S/081/63/000/001/026/061
B144/E186

AUTHORS: Grosu, X., Sandulovili, R.

TITLE: Contribution to the problem of spontaneous oscillations of the glow-discharge voltage in oxygen as a function of the length of the positive column

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 1, 1963, 92; abstract 1B634 (Studii si cercetări stiint. Acad. RPR Fil. Iasi Fiz. si stiente tehn., v. 11, no. 2, 1960, 183-188 [Rum.; summaries in Russ. and French])

TEXT: Experimental study of the dependence of frequency and form of natural oscillations (NO) of the glow-discharge plasma in O₂ on O₂ pressure, amperage and the gap between the electrodes. It was found that an increase of the O₂ pressure from 0.70 to 1.65 mm Hg and of the amperage from 8 to 15 ma significantly reduced the NO frequency (from 54.2 to 31.9 kc/s). An increase of the gap between the electrodes from 9.1 to 11.2 cm with constant amperage and O₂ pressure also effected a reduction Card 1/2.

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B144/B186

Contribution to the problem ...

in the NO frequency. The NO studied are considered by the authors to be natural oscillations of the positive discharge column, which works as a linear oscillator. Moreover, the opinion is advanced that resonance NO can be produced not only by a gas column enclosed as a whole between the electrodes, but also by different homogeneous parts of the discharge, e.g., by the positive column alone. [Abstracter's note: Complete translation.] ✓

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"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7

SANDU, D.; VRAJITORU, D.; SANDULOVICI, R.

Apparatus with transistors for selecting the magnetic commutating
tores. Studii fiz tehn Iasi 13 no.1:33-38 '62.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7"

GROSU, X.; SANDULOVICIU, R.

Contributions to the study of oscillations in the positive column
of luminescent discharge in oxygen. Studii fiz tehn Iasi 14 no.1:
37-44 '63.

Country : USSR
Category : Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour : RZhBiol., No 6, 1959, No 24899

Author : Sandulyak, Ye, V,
Inst : Rumanian Scientific-Research Institute of the
Food Industry.
Title : Concerning Nest-Cultivation of Pepper.

Orig Pub : Agrobiologiya, 1958, No. 2, 143-144

Abstract : In 1954, the Rumanian Scientific-Research Institute of Food Industry for the Base of Raw Materials recommended to plant vegetable pepper by the nest method (3 plants per nest) at a feeding area of 60 x 40 cm. The plants develop well and bear plenty of fruit.

Card : 1/1

SANDULYAK, Ye.V. [Sanduleac, E.V.], (Rumyniya)

New Bulgarian textbook on genetics ("Genetics" [in Bulgarian] by R.Georgiev. Reviewed by E.V.Sanduleac). Agrobiologia no.1: 149-151 Ja-~~J~~ '60. (MIRA 13:5) (Genetics) (Georgiev, R.)

SANDUTSA, N.S., inzh.

Coordinate the maintenance and repair service with the requirements of automobile transportation. Avt. dor. 22 no.10:5-6 0 '59. (MTHA 13:2)
(Roads--Maintenance and repair)

SANDU-VILLE, C.; HATMANU, M.; SAPUNARU, T.; RUSANOVSKI, V.

Contributions to the study on the resistance of an assortment
of species, progenies, and hybrids of corn in the presence
of the main diseases during the period 1958-1962 in Moldavia.
Studii biol agr Iasi 14 no.2:391-402 '63.

SANDU-VILLE, C.; SEREA, C.; SAPUNARU, T.; HATMANU, M.; LAZAR, Al.

Sensitivity of a variety of fall grain to the infection
from flying smut. Studii biol agr Iasi 14 no.2:379-
389 '63.

ACC NR: AP6021938

(A)

SOURCE CODE: UR/0188/66/000/002/0009/0013

AUTHOR: Sandybayev, O.

ORG: Department of Optics (Kafedra optiki)

TITLE: Spectroscopic study of the excitation of atoms in a hollow cathode with double anode as a function of the supplied powerSOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1966,
9 - 13

TOPIC TAGS: spectroscopy, excitation spectrum, spectral line, discharge tube, sodium

ABSTRACT: The author investigated the state of intensity of the spectral lines obtained by excitation in a hollow cathode, as a function of the power of the exciting current. One of the purposes of the investigation was to ascertain the changes of the excitation conditions and determine whether they approach equilibrium with increasing excitation intensity. A special discharge tube capable of carrying a current up to 6 a at 1600 v was used. The water-cooled hollow cathode and the two anodes were made of aluminum. The investigated substance (NaCl) was deposited on the cathode in the form of a thin layer. The D-line spectrum was recorded with a spectrograph (ISP-51) and the spectrograms were measured with a microphotometer (MF-2). Argon, helium, and neon were used as the working gases. The results show that in general the intensities increased with current up to approximately 1 ampere, after which saturation set in. As a rule, the intensity decreased with increasing pressure. The ratio of the inten-

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UDC: 535.33: 537.525

ACC NR: AP6021938

sities of the components of the D line also varied with the current, the maximum reaching 1.54, as against 2 obtained with thermal sources of light (arc or spark). This deviation is due not only to self-absorption but to the unique excitation conditions in the hollow cathode. It is also deduced from the ratio of the line intensities that the populations of the upper levels (for transitions with common lower levels) also depend on the excitation, showing that in the hollow cathode the excitation conditions are very far from equilibrium. Orig. art. has: 4 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 13May64/ CRIG REF: 007/ OTH REF: 004

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SOV/137-57-1-823

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 107 (USSR)

AUTHOR: Sandyrev, I. F.

TITLE: The Routine Procedures at the im. Roshal' Plant in Semi-permanent
Mold Casting (Opyt zavoda imeni Roshalya po lit'yu v polupostoyan-
nyye formy)

PERIODICAL: V sb.: Povysheniye proizvoditel'nosti truda v liteynom proiz-ve,
Moscow-Leningrad, Mashgiz, 1955, pp 131-138

ABSTRACT: A description is given of the production of iron barrels and drying
cylinders for the paper industry by casting in semipermanent molds.
The diameter of the castings is 800-1600 mm, the length up to 4500
mm, the weight up to 13 ton. The mixture used for the preparation
of molds has the following composition (in %): Fine refractory clay
41, treated refractory clay mixture 19, fireclay 15, quartz sand 25;
the moisture content of the mixture 6-8%; its strength in the damp
state is 0.8-1.0 kg/cm². After each casting the molds are repaired,
coated with paint of 1.3 sp.gr. consisting of (in %) black graphite 19,
coke 37, fireclay 37, and charcoal 7 and are then dried. The molds
serve for as many as 25 castings. Considerable savings were achieved.

Ya. M.

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SANDYREV, P.M.

Veterinary and zootechnical measures in a state farm. Veterinariia
34 no.6:11-14 Je '57. (MIRA 10:7)

1. Glavnnyy veterinarnyy vrach sovkhosa "Kholmogorka."
(Veterinary hygiene)

SANDYREVA, Z.V.

Organization of the dyeing of artificial fur. Shvein.prom.
no.2:12-13 Mr-Ap '62. (MIRA 15:4)
(Fur, Artificial) (Dyes and dyeing)

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S/022/61/014/003/001/008

D201/D304

16.3500

AUTHOR: Sandzhiyeva, K.B.

TITLE: An approximate method of solving the boundary problem of equation $\Delta\Delta\varphi - \lambda^2 \Delta\varphi = 0$

PERIODICAL: Akademiya nauk Armyanskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 3, v. 14, 1961, 25 - 34

TEXT: The author derives approximate solutions with accuracy up to a chosen degree for some particular cases of the general equation $\Delta\Delta\varphi - \lambda^2 \Delta\varphi = 0$ (containing Riemann's function), by introducing approximate values of the latter. The author first considers equations of the 2nd order

$$\Delta\varphi(x, y) - \alpha^2\varphi(x, y) = 0, \quad \Delta\varphi(x, y) = \frac{\partial^2\varphi}{\partial x^2} + \frac{\partial^2\varphi}{\partial y^2}, \quad (1.1)$$

where α - a real constant. Problem A is to find a solution of Eq. (1.1), regular in single valued area G, for the boundary condition

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An approximate method of ...

$$[\varphi(x, y)]_r = f(s) \quad (1.2)$$

where $f(s)$ is a given continuous function. In this condition the area G is taken as a unit circle $|z| \leq 1$. The general solution of Eq. (1.1) has a form

$$\varphi(x, y) = \beta J_0(iar) + \operatorname{Re} \int_0^z \Phi(t) J_0\left(ia\sqrt{z(z-t)}\right) dt, \quad (1.3)$$

where $\varphi(z)$ is any holomorphic function in the area G , and J_0 is a Bessel function of the first kind. Riemann's function Eq. (1.1) has the form

$$J_0\left(a\sqrt{z(z-t)}\right) = \sum_{k=0}^{\infty} \frac{1}{(k!)^2} \left(\frac{a}{2}\right)^{2k} [z(z-t)]^k.$$

Its n -th approximation is substituted in Eq. (1.3) giving

$$\varphi_n(x, y) = \beta \sum_{k=0}^n \frac{1}{(k!)^2} \left(\frac{a}{2} r\right)^{2k} + \operatorname{Re} \int_0^z \Phi_n(t) \sum_{k=0}^n \frac{1}{(k!)^2} \left(\frac{a}{2}\right)^{2k} [z(z-t)]^k dt.$$

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Problem B is to find a holomorphic junction $\Psi(z)$ on a circle of the unit radius such that satisfies the boundary condition

$$\operatorname{Re} \left[\frac{d^n \psi}{dz^n} + \left(\frac{\alpha}{2} \right)^2 z \frac{d^{n-1} \psi}{dz^{n-1}} + \cdots + \frac{\bar{z}^n}{n!} \left(\frac{\alpha}{2} \right)^{2n} \psi \right]_{\Gamma} = \gamma(t),$$

where

$$\gamma(t) = f(t) - \beta \sum_{k=0}^n \frac{1}{(k!)^2} \left(\frac{\alpha}{2} \right)^{2k} = f(t) - \beta M_0.$$

Solving this boundary problem gives

$$\begin{aligned} W(z) = & \frac{z^n}{2\pi i} \int_{\Gamma} \gamma(t) \frac{t+z}{t-z} \frac{dt}{t} + iCz^n + \\ & + \sum_{k=0}^{n-1} [a_k (z - z^{(2n-k)}) + i\beta_k (z + z^{2n-k})]. \end{aligned}$$

To determine $\Psi(z)$, use is made of Euler's equation with a singular
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point $z = 0$. Substituting $z = e^t$ gives the equation for $L\psi$ with constant coefficients, the characteristic equation being

$$\frac{1}{n!} \left(\frac{\alpha}{2}\right)^{2n} + \frac{1}{(n-1)!} \left(\frac{\alpha}{2}\right)^{2(n-1)} \lambda + \dots + \\ + \lambda(i-1)(\lambda-2)\dots(\lambda-n+1) = 0.$$

The author states that the general solution of a non-uniform equation consists of a general solution of a uniform equation and of a partial solution of a non-uniform equation. A uniform Euler's equation is that of the type $Z^\lambda (\ln Z)^k$. Simple substitutions show that the characteristic equation has no integer positive roots. Therefore, a uniform equation cannot have holomorphic solutions in the circle $|z| < 1$. The author shows that if a position of Fourier series is taken as boundary conditions, the solution to problem A is

$$\varphi(x, y) = \lim_{n \rightarrow \infty} \varphi_n(x, y) = \beta J_0(\alpha r) +$$

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$$+ 2 \operatorname{Re} \int_0^z \left(\sum_{k=1}^M \delta_k k t^{k-1} \right) J_0(\alpha t)^{-1} \frac{1}{z(z-t)} dt,$$

where

$$f(s) = \sum_{-M}^M \delta_k e^{ks},$$

$$\beta = \frac{\delta_0}{M_0},$$

and

$$\delta'_k = \frac{\delta_k}{k!} \left(\frac{i\alpha}{2} \right)^k \frac{1}{J_k(i\alpha)}. \quad \checkmark$$

The author then considers biquadratic equations. Equation

$$\Delta \Delta \varphi - \lambda^2 \Delta \varphi = 0 \quad (2.1)$$

-- where λ is any real number -- is used for calculating shallow

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spherical shells. Considered then is problem C which is to find the solution of Eq. (2.1) in the circle G, for the boundary conditions

$$\left. \frac{\partial \varphi}{\partial x} \right|_r = f_1(s), \quad \left. \frac{\partial \varphi}{\partial y} \right|_r = f_2(s),$$

- where $f_1(s)$ and $f_2(s)$ are given real continuous functions which have continuous derivatives along the arc up to the fourth order. Single values with accuracy up to the additive real constant are obtained. Differentiating and substituting into the boundary condition $\frac{\partial \varphi}{\partial z} = \frac{1}{2}[f_1(s) - if_2(s)]$, it follows that

$$4\operatorname{Re} \frac{\partial \varphi_n}{\partial z} = 2f_1(s) = \operatorname{Re} \left[\beta \sum_{k=0}^n \frac{1}{(k!)^2} \left(\frac{\lambda}{2}\right)^{2k} \frac{z^{k+k+1}}{k+1} + \frac{d\gamma_n}{dz} + \right. \\ \left. + \frac{1}{2} \sum_{k=0}^n \frac{z^{k+1}}{(k+1)!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k} \psi_n}{dz^{n-k}} + \frac{1}{2} \sum_{k=0}^n \frac{z^k}{k!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k-1} \psi_n}{dz^{n-k-1}} \right]_r,$$

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An approximate method of ...

$$4\operatorname{Re} i \frac{\partial \Phi_n}{\partial z} = 2f_2(s) = \operatorname{Re} i \left[\beta \sum_{k=0}^n \frac{1}{(k!)^2} \left(\frac{\lambda}{2}\right)^{2k} z^k \frac{\bar{z}^{k+1}}{k+1} + \frac{d\gamma_n}{dz} + \right. \\ \left. + \frac{1}{2} \sum_{k=0}^n \frac{\bar{z}^{k+1}}{(k+1)!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k} \psi_n}{dz^{n-k}} - \frac{1}{2} \sum_{k=0}^n \frac{\bar{z}^k}{k!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k-1} \psi_n}{dz^{n-k-1}} \right]_r.$$

For a circle of unit radius $\bar{z} = 1/2$,

$$2f_1(s) = \operatorname{Re}[z^{-(n+1)} w_1(z)], \quad 2f_2(s) = \operatorname{Re}[z^{-(n+1)} w_2(z)],$$

where $w_1(z)$ and $w_2(z)$ are holomorphic functions. The unknown functions $\psi_n(z)$ and $\gamma_n(z)$ are then determined from

$$w_1(z) + i w_2(z) = \sum_{k=0}^n \frac{z^{n-k+1}}{k!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k-1} \psi_n(z)}{dz^{n-k-1}} = \\ = \sum_{k=0}^n \frac{z^{n-k+1}}{k!} \left(\frac{\lambda}{2}\right)^{2k} \psi_{k+1}(z),$$

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An approximate method of ...

$$\begin{aligned} W_1(z) - iW_2(z) &= 2\beta z^n \sum_{k=0}^n \frac{1}{(k+1)(k!)^2} \left(\frac{\lambda}{2}\right)^{2k} + 2z^{n+1} \frac{d\gamma_n(z)}{dz} + \\ &\quad + \sum_{k=0}^n \frac{z^{n-k}}{(k+1)!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k}\psi_n(z)}{dz^{n-k}}. \end{aligned} \quad (2.5)$$

The first of the equations (2.5) represents Euler's non-uniform equation previously

$$\frac{W_1(z) + iW_2(z)}{z} = \sum_{k=0}^n \frac{z^{n-k}}{k!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k}\psi_{n+1}(z)}{dz^{n-k}}. \quad (2.6)$$

A holomorphic solution in the unit circle is of the form

$$\psi_{n+1}(z) = Q(z) + \frac{iC - C'}{A_n} z^n + \sum_{k=0}^n \left\{ (\alpha_k + i\alpha'_k) \left(\frac{z^{k-1}}{A_{k-1}} - \frac{z^{2n-k+1}}{A_{2n-k+1}} \right) + \right.$$

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An approximate method of ...

$$+ (i\beta_k - \beta'_k) \left(\frac{z^{k-1}}{A_{k-1}} + \frac{z^{2n-k+1}}{A_{2n-k+1}} \right) \},$$

where $Q(z)$ is the partial solution of Eq. (2.6). Differentiating and after some substitutions

$$2 \frac{d\gamma_n(z)}{dz} = \frac{W_1(z) - iW_2(z) - 2\beta z^n M_1 - \sum_{k=0}^n \frac{z^{n-k}}{(k+1)!} \left(\frac{\lambda}{2}\right)^{2k} \frac{d^{n-k} \psi_n(z)}{dz^{n-k}}}{z^{n+1}}, \quad (2.7)$$

$$M_1 = \sum_{k=0}^n \frac{1}{(k+1)(k!)^2} \left(\frac{\lambda}{2}\right)^{2k}. \quad (2.7)$$

is obtained. Since the function $d\gamma_n(z)/dz$ is holomorphic at zero point, the conditions

$$\alpha_k - i\alpha'_k + i\beta_k + \beta'_k = 0 \quad (k = 0, 1, \dots, n-1)$$

$$\alpha_n - i\alpha'_n + i\beta_n + \beta'_n - 2\beta M_1 = 0.$$

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D201/D304

An approximate method of ...

$$\alpha_k = \beta_k = \alpha'_k = \beta'_k = 0 \quad (k=0, 1, \dots, n-1).$$

$$\beta_n = \alpha_n = 0, \quad \beta = \frac{\alpha_n}{M_1}.$$

are satisfied. Then

$$\Psi_n(z) = Q^{(n+2)}(z)$$

and $d\gamma_n(z)/dz$ are obtained. The author expresses thanks to I.N. Vekua and to I.I. Danilyuk for their advice. There are 3 Soviet-bloc references.

ASSOCIATION: Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR
(Institute of Hydrodynamics, Siberian Section AS USSR)

SUBMITTED: January 3, 1961

Card 10/10

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S/022/62/015/U02/006/009
D218/D302

AUTHOR: Sandzhiev, K.B.

TITLE: Applying an approximate method to shell calculations

PERIODICAL: Akademiya nauk Armyanskoy SSR, Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 15, no. 2, 1962, 121-138

TEXT: The first part of this paper is concerned with the solution of a set of equations describing the stresses state of hollow prismatic shells which have been reported by I.N. Vekua (Ref. 1: Trudy Tbil. matemat. in-ta, 21, 1955). A number of general theorems is established which are used to classify the solutions and to investigate their uniqueness. The second part of the paper is concerned with application of the method described by the author in a previous paper (Ref. 3: Izvestiya AN ArmSSR, seriya fiz.-mat. nauk, v. 14, 3, 1961) to shell calculations. The following problems are solved: 1) Cylindrical shell loaded with a constant normal force; ends fixed, body forces absent. 2) Circular cylindrical shell subjected to a compressible, constant, longitudinal, normal force. 3) Spherical shell with fixed rim, under the action of its own weight. This

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Applying an approximate method ...

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D218/D302

work was directed by Academician I.N. Vekua. There are 3 figures
and 3 Soviet-bloc references.

ASSOCIATION: Institut gidrodinamiki Sibirskogo otdeleniya AN SSSR
(Institute of Hydrodynamics of the Siberian Branch of
the AS USSR)

SUBMITTED: September 8, 1961

✓

Card 2/2

L 6839-65 EWT(1)/EPF(c)/EPF(n)-2/EPR/T/EPA(bb)-2/EWA(1) Pr=4/Ps=4/Fu=4
AFWL/ASD(a)-5/ASD(d)/ESD(dp)/RAEM(t) WW
ACCESSION NR: AP4044083

S/0022/64/017/004/0003/0007

69
66

AUTHOR: Sandzhiveva, K. B.

TITLE: Concerning one estimate of the solution of a second order equation

SOURCE: An ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk,
v. 17, no. 4, 1964, 3-7

TOPIC TAGS: partial differential equation, series convergence,
Dirichlet problem, analytic function, uniqueness theorem

ABSTRACT: The problem is to solve the equation

$$\Delta u + a(x, y) \frac{\partial u}{\partial x} + b(x, y) \frac{\partial u}{\partial y} + kc(x, y) u = 0,$$

where

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$$\Delta u(x, y) = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2},$$

with boundary condition

$$u(x, y)|_{\Gamma} = f(s).$$

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with the coefficient $\beta c(x, y)$ positive. The Dirichlet problem for such an equation always has a unique solution if this coefficient is negative. $a(x, y)$, $b(x, y)$, and $c(x, y)$ are analytic functions of x and y in a domain G , and β is a real parameter. G is taken to be the unit circle. By seeking the solution in the form of a series and then demonstrating the convergence of the series, it is shown that the problem has a unique solution for sufficiently small β . "In conclusion I thank Academician I. N. Vekua for suggesting the topic and for valuable advice." Orig. art. has: 12 formulas.

ASSOCIATION: Stavropol'skiy pedagogicheskiy institut (Stavropol')

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L 6839-65

ACCESSION NR: AP4044083

Pedagogical Institute)

SUBMITTED: 27Dec63

ENCL: 00

SUB CODE: MA

NR REF SOV: 003

OTHER: 000

Card 3/3

SANEBLIDGE, M S

Def. at
Tbilisi State U.

Philip Morris Inc.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7"

TSYS', P.N.; KALESNIK, S.V.; SOKOLOV, N.N.; CHOCHIA, N.S.; PROTOPOPOV, A.P.; ZABELIN, I.M.; GVOZDETSKIY, N.A.; YEFREMOV, Yu.K.; KARA-MOSKO, A.S.; KOZLOV, I.V.; SOLNTSEV, N.A.; ISACHENKO, A.G.; ARMAND, D.L.; MIROSHNICHENKO, V.P.; PETROV, K.M.; KAZAKOVA, O.N.; MIKHAYLOV, N.I.; PARMUZIN, Yu.P.; GERENCHUK, K.I.; MIL'KOV, F.N.; TARASOV, F.V.; NIKOLAYEV, V.N.; SOBOLEV, L.N.; RYBIN, N.N.; DUMIN, B.Ya.; IGNAT'YEV, G.M.; MEL'KHEYEV, M.N.; SANEBLIDZE, M.S.; VASIL'YEVA, I.V.; PEREVALOV, V.A.; BASALIKAS, A.B.

Discussion at the conference on studying land forms. Nauk. zap. Lviv.
un., 40:231-267 '57. (MIRA 11:6)

1. Lvovskiy gosudarstvennyy universitet (for TSys', Gerenchuk, Dumin).
2. Laboratoriya aerometodov AN SSSR, Leningrad (for Sokolov, Miroshnichenko, Petrov).
3. Institut geografii AN SSSR, Moskva (for Armand, Sobolev).
4. Gosudarstvennyy universitet, Voronezh (for Mil'kov, Tarasov).
5. Leningradskiy gosudarstvennyy universitet (for Chochia, Isachenko, Kazakova).
6. Komissiya okhrany prirody AN SSSR, Moskva (for Protopopov).
7. Gosudarstvennyy universitet, Chernovtsy (for Rybin).
8. Gosudarstvennyy universitet, Irkutsk (for Mel'kheyev).
9. Gosudarstvennyy pedagogicheskiy institut im. V.I. Lenina, Moskva (for Vasil'yeva).
10. Bol'shaya Sovetskaya Entsiklopediya (for Zabelin).
11. Gosudarstvennyy universitet, Tbilisi (for Saneblidze).
12. Moskovskiy gosudarstvennyy universitet (for Gvozdetskiy, Solntsev, Mikhaylov, Parmuzin, Nikolayev, Ignat'yev).
13. Torgovo-ekonomicheskiy institut, Lvov (for Perevalov).
14. Gosudarstvennyy institut im. Kapsukasa, Vil'nyus (for Basalikas).
15. Muzey zemlevedeniya Moskovskogo gosudarstvennogo universiteta (for Yefremov, Kozlov).
16. Srednyaya shkola No.13, Kiev (for Kara-Mosko). (Physical geography)

M. S. SANEBLIDZE, N. K. KEREMOV AND K. OGANYAN

"A scheme for an economic division of the Trans-Caucasian Republic"

report presented at an Inter-University Conference on Dividing the USSR into Economic Regions, 1-5 February 1958, Moscow. (Izv. Ak nauk SSSR, 4,146-49; 1958 author - Gvozdetskiy, N. A.)

SANEBLIDZE, M.S.

Physicogeographical area distribution in the Georgian S.S.R.
Nauch. dokl. vys. shkoly; geol.-geog. nauki no.3:45-50 '58.
(MIRA 12:1)

1.Tbilisskiy universitet, geografo-geologicheskiy fakul'tet,
kafedra fizicheskoy geografii.
(Georgia--Physical geography)

SANEBLIDZE, M.S.

Practice in the physicogeographical regionalization of the Georgian
S.S.R. Trudy Tbil. GU 90:89-105 '63. (MIRA 17:4)

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7

NADAREYSHVILI, K. Sh.; SANEBLIDZE, O.I.

Bridge circuits for electric recording of blood pressure,
respiration, and muscular contraction. Trudy Inst. fiziol.
AN Cruz. SSR 13:249-252 '63. (MIRA 17:6)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7"

SANECKA-OBACZ, Maria

An adaptation of the ninhydrin-cupric nitrate test (N-CN) to the identification of amino acids in biological fluids. Chem anal 6 no.3: 419-428 '61.

1. Department of Biochemistry, Academy of Medicine, Lublin.

POLAND

SANECKA-OBACZ, Maria, Department of Physiological Chemistry
(Zaklad Chemii Fizjologicznej), AM [Akademia Medyczna, Medi-
cal Academy] in Lublin (Director: Prof. Dr. J. OPIENSKA-
BLAUTH)

"Detection of Tryptophan in Urine."

Warsaw, Polski Tygodnik Lekarski, Vol 18, No 24, 10 Jun 63,
pp 853-855

Abstract: [Author's English summary] Author made a study of the detection of tryptophan in urine, using paper chromatography, undesalted urine, isopropanol of developing the chromatogram, and p-dimethylaminobenzaldehyde for locating the tryptophan. Tryptophan occurs in the urine in 93-98 percent of the cases, depending upon the age group examined. The amount of tryptophane excreted, assessed semiquantitatively, varies from 20-40 mg daily. There are 16 references, of which four (4) are Polish and 12 English.

1/1

SANECKA-OBACZ, Maria

Determination of tryptophan in the urine. Pol. tyg. lek. 18
no.24:853-855 10 Je '63.

1. Z Zakladu Chemii Fizjologicznej AM w Lublinie; kierownik
Katedry: prof. dr J. Opienska-Hlauth.
(TRYPTOPHAN) (URINE) (CHROMATOGRAPHY)
(AMINOACIDURIA)

SANECKI, J.

Tasks of the geologic road service. p. 184.

DROGOWNICTWO, Vol. 10, No. 8 Aug. 1955

(Instytut Techniki Budowlanej) Warszawa.

SOURCE: East European Accessions List Vol. 5, NO. 1 Jan. 1956

SANECKI, J.

Tasks of the geologic road service (Conclusion) p. 214.

DRCGWNICTWO, Vol. 10, No. 9 Sept. 1955

(Instytut Techniki Budowlane) Warszawa

SOURCE: East European Accessions List Vol. 5, No. 1 Jan. 1956

SANECKI, Marek

Epidemiological characteristics of measles. Przegl. epidem.,
Warsz. 13 no.3:277-289 1959.
(MEASLES, epidemiol.)

SANECKI, Marek, pomoc techn. Ewa Jarnuszkiewicz

Distribution of Shigella strains among the population of 10
administrative regions in Poland during 1955-1956-1957. Przegl.
epidem. 14 no.3:239-250 '60.

1. Z Zakladu Epidemiologii PZH Kierownik: prof. dr Jan Kostrzewski.
(DYSENTERY BACILLARY statist)

SANECKI, Marek

Measles in Poland during 1919-1959 and its comparison with the
world situation. Przegl. epidem. 15 no.1:41-52 '61.

1. Z Zakladu Epidemiologii PZH Kierownik: prof. dr J.Kostrzewski.
(MEASLES epidemiol)

POLAND

SANECKI, Marek (with technical assistance by JARNUSZKIEWICZ, Ewa), Epidemiology Research Office (Zaklad Epidemiology), PZH [Panstwowy Zaklad Higieny, State Institute of Hygiene] (Director: Prof. Dr. J. KOSTRZEWSKI).

"Epidemiological Characteristics of Dysentery in Selected Areas of Poland in 1958-1960, with Note of the Etiological Factor."

Warsaw, Przeglad Epidemiologiczny, Vol 17, No 3, 63, pp 169-180.

Abstract: [Author's English summary modified] Study involved 11,940 persons with positive faeces culture. S. sonnei was the etiological factor in 27-31.6% of the patients and 19.6-43.2% of the carriers, and S. flexneri, sub-types 2a and 3a in most of the others. Incidence of Sonne was higher in the summer in both patients and carriers, and was more common in children. Flexner showed little seasonal variation. There was no difference in proportion between rural and urban population, and men predominated among patients, while women among the carriers. 22 refs: 2 Sov, 1 Chinese, 3 English, others mostly Polish and German..

1/1

SANECKI, Marek

Some epidemiological characteristics of dysentery in selected areas in Poland in 1960-1962 with special reference to the etiologic factor. Przegl. epidem. 18 no.3:325-333 '64

1. Z Zakladu Epidemiologii Panstwowego Zakladu Higieny (kierownik: prof. dr. J. Kostrzewski).

SANECKI, Marek

Epidemiological analysis of dysentery in a section of Warsaw
in 1961-62. Przegl. epidem. 18 no.1:25-33 '64.

1. Z Zakladu Epidemiologii Panstwowego Zakladu Higieny (Kierownik:
prof. dr. J. Kostrzewski).

L 31835-66 T JK
ACC NR: AP6021333

(A)

SOURCE CODE: P0/0081/65/019/003/0387/0391

AUTHOR: Bochenek, Wieslaw—Bochenek, V.; Dziok, Antoni—Dzik, A.; Magdzik, Wieslaw—
Magdzik, V.; Sanecki, Marek—Sanetski, M.

24

B

ORG: Wojewodztwo Public-Health and Epidemiologic Station, Rzeszow (Wojewodzka Stacja
Sanitarno-Epidemiologiczna)

TITLE: Epidemic of paratyphoid B fever in Rzeszow Wojewodztwo in 1963. Report I.
Epidemiologic analysis

SOURCE: Przeglad epidemiologiczny, v. 19, no. 3, 1965, 387-391

TOPIC TAGS: bacteriology, infectious disease, diagnostic medicine, epidemiology

ABSTRACT: The 1963 epidemic of paratyphoid B fever was the largest observed in Poland since World War II. A total of 188 persons contracted the disease, and in 165 of these persons (88 percent) the diagnosis was confirmed bacteriologically. The carrier of the germ was found to be the father of a restaurant cook; the cook was the first patient, and as a result of contact with him, other restaurant personnel (19 out of 25) and patrons became ill. Orig. art. has: 2 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: none

Card 1/1 MC

"APPROVED FOR RELEASE: 07/13/2001

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B. also

Urgency
(Urgent)

2704 Analytical methods in the artificial textiles industry.
V. Saito (Journ. Chem., 1949, 8, 176-178).—A review.
R. TRUBCOW.

APPROVED FOR RELEASE: 07/13/2001

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SANETRA, F.

Fifty years of the nitrate industry. p. 111,
CHEMIK, Katowice, Vol. 8, no. 4, Apr. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

SANETRA, F.

SANETRA, F. The question of prices for fertilizers p. 329

Vol 9, no. 11, Nov. 1956
ACTA PHYSICOLOGICA POLONICA
SCIENCE
Warszawa, Poland

So: East European accession vol 6, no. 3, March 1957

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7

SANETRA, Jerzy, mgr., inz.

Post-mortem recollections on engineer Jerzy Glogier. Przegl odlew 12
no.3:94 Mr '62.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7"

SANEIRA, S.

Raw materials bases. p. 151.

PROBLEMY PROJEKTOWE HUTNICTWA. (Biuro Projektow Przemyslu Hutniczego,
Biuro Projektow Przemyslu Stalowego i Biuro Projektow Przemyslu
Metalowego) Gliwice, Poland. Vol. 6, no. 5, May, 1958.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 8, Aug. 1959.

Uncl.

SANETRA, Tadeusz, inz.

Industrial boiler construction works in Ratibor in the past
and today. Przegl techn [84] no.44:3,5 ,4 N '62.

SANETRA, Tadeusz, inz.

Technical progress in designing and construction of power generating boilers. Gosp paliw 11 no.2:62-63 F '63.

1. Glowny Inżynier Fabryki Kotłów, Racibórz.

SANETS, M.F., aspirant; KHAL'KOV, V.S., aspirant

Reliability of the "Avtomashinist" subway system. Vest. TSNII
MFS 23 no.8:22-25 '64 (MIRA 18:2)

SALIV, V.I., insh.

Introducing automatic control in machining curved parts of chair
legs. Nauch. trudy Len. lesotekhn. akad. no.76:21-27 '57. (MIMA 11:4)
(Automatic control) (Chairs)

SANEV, V. I., inzh.

Machine synchronization in the automatic production line for the
processing of furniture parts. Der.prom. 9 no.12:11-12 D '60.
(MIRA 13:12)

(Assembly-line methods)
(Woodworking machinery)

S/194/61/000/003/025/046
D201/D306

AUTHOR: Sanev, V.I.

TITLE: Automatic two-position regulator in the automatic line JTA-2 (LTA-2) for machining of curved components

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 3, 1961, 38-39, abstract 3 V311 (Izv. vyssh. uchebn. zavedeniy. Lesnoy zhurnal, no. 2, 1960, 97-101)

TEXT: An automatic production line LTA-2 has been developed for machining curved components of a joiner's bench, the linking of benches in it being achieved using the principle of two-position control. The line is alternating - continuous with flexible inter-bench linking. The electrical circuit of the LTA-2 controller is given. The operation of the charging mechanism and of the controller is described in great detail. The controller secures continuous

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Automatic two-position...

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output of production. It is shown that in conjunction with this the most effective seems to be the principle of linking the benches by automatic control of production of intermediate sections. Synchronism in benches of the line may be obtained also on the basis of automatic, continuous and extreme control of parameters. [Abstracter's note: Complete translation]

Card 2/2

SANEV, V. I.

Cand Tech Sci - (diss) "Several problems of theory and practice of coupling machine-tools in automatic lines for machine working of parts in wood processing." Moscow, 1961. 22 pp with diagrams; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Forestry Engineering Inst); 150 copies; free; (KL, 6-61 sup, 225)

SANEV, V.I.

Piece production of planing machines as constituent parts of
automatic lines. Nauch. trudy LTA no.97:17-28 '62. (MIRA 17:2)

GRUBE, Aleksandr Eduardovich, doktor tekhn. nauk; SANEV, Valentin Il'ich, kand. tekhn. nauk; SHEYNOV, I.I., red.

[Automatic loading and unloading devices of woodworking machines for processing scantling and panel parts] Avtomaticheskie zagruzochnye i razgruzochnye ustroistva k derevoobrabatyvaiushchim stankam dlia obrabotki bruskovykh i shchitovykh detalei; stenogramma lektsii. Leningrad. No.1. 1963. 33 p. (MIRA 17:5)

GRUBE, Aleksandr Eduardovich, doktor tekhn. nauk; SANEV, Valentin Il'ich, kand. tekhn. nauk; VARAKSIN, F.D., red.

[Automation of the machining of parts in the woodworking industries] Avtomatizatsiya stanochnoi obrabotki detalei v derevoobrabatyvaiushchei promyshlennosti. Moskva, Izd-vo "Lesnaia promyshlennost', " 1964. 540 p. (MIRA 17:7)

GRUBE, Aleksandr Eduardovich, doktor tekhn. nauk; SANEV,
Valentin Il'ich, kand. tekhn. nauk; SHEYNOV, I.I., red.

[Automatic loading and unloading devices for woodworking
machines and machine lines designed by the S.M.Kirov Forest
Technology Academy; stenographed lecture read at the Leningrad
House of Scientific and Technical Propaganda, November 1963]
Avtomatische zagruzochnye i razgruzochnye ustroistva k de-
revoobrabatyvaiushchim stankam i stanochnym liniiam kon-
struktsii LTA im. S.M.Kirova; stenogramma lektsii prochitan-
noi v LDNTP v noiabre 1963 g. Leningrad, 1964. 30 p. (Lenin-
gradskii dom nauchno-tehnicheskoi propagandy. Seriia: Derevo-
obrabatyvaiushchaia promyshlennost', no.2) (MIRA 17:8)

KALITEYEVSKIY, Rostislav Yevgen'yevich, kand. tekhn. nauk;
SANEV, V.I., red.

[Automation of the technological processes of sawmilling]
Avtomatizatsiya tekhnologicheskikh protsessov lesopile-
niia. Moskva, Lesnaia promyshlennost', 1964. 243 p.
(MIRA 18:3)

VARAKIN, Yuriy Mikhaylovich; SANEV, Valentin Il'ich, kand. tekhn.
nauk, retsenzent; MAKOVSKIY, N.V., doktor tekhn. nauk,
retsenzent;

[Fundamentals of the automation of the technological
processes of sawmilling production] Osnovy avtomatiza-
tsii tekhnologicheskikh protsessov lesopil'nogo proiz-
vodstva. Moskva, Lesnaia promyshlennost', 1964. 424 p.
(MIRA 17:11)

ALTUKHOV, Vasiliy Fedorovich; SANEV, V.I., red.

[Pneumatic control of woodworking machinery] Avtomati-
zatsiia derevoobrabatyvaiushchikh stankov sredstvami
pnevmatiki. Moskva, Lesnaia promyshlennost', 1965. 85 p.
(MIRA 18:3)

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120005-7

NEKHAMKIN, N.O., kand.tekhn.nauk; SANEV, V.I., kand.tekhn.nauk

Automatic line for the manufacture of dimension stock. Bum. 1 der.
(MIRA 18:10)
prom. no. 185-8 Ja-Nr '65.

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SANEVSKAYA, T.

S/058/61/000/010/013/100
A001/A101

AUTHORS:

Bartke, Ya., Chok, P., Gerulya, Ya., Kholinskiy, R., Miyezovich, M.,
Sanevskaya, T.

TITLE:

Angular distribution of secondary particles in interactions of nucleons with heavy nuclei of the photoemulsion

PERIODICAL:

Referativnyj zhurnal Fizika, no.10, 1961, 96, abstract 10B495 ("Tr. Mezhdunar. konferentsii po kosmich. lucham, 1959, v. 1", Moscow, AN SSSR, 1960, 106 - 110)

TEXT: The authors investigate angular distributions of secondary particles produced in collisions of nucleons with heavy nuclei of photosmulision. The results obtained are compared with predictions of the hydrodynamical theory (tube model) and the two-center model.

[Abstracter's note: Complete translation]

Card 1/1

SANEZHKOVA, T. N.

"Changes in Attenuation in Cyclic Voltages above and below the Fatigue Point," Zhur.
Tech. Fiz., 19, No. 4, 1949. Mbr., Leningrad Polytechnical Inst. M. I. Kalinin, -1939-.

SANFIROVA, T. F.

PA 38/49185

User/Engineering
Residual Stresses
Tensile Tests

Mar 49

"The Emergence of Residual Stresses of the First
Class Under Tension," A. I. Gilman, T. P.
Sanfirova, V. A. Stepanov, Leningrad Polytech Inst,
Lab Phys Metalworking, 9 pp

"Zamz Tekh Fiz" Vol XIII, No 3

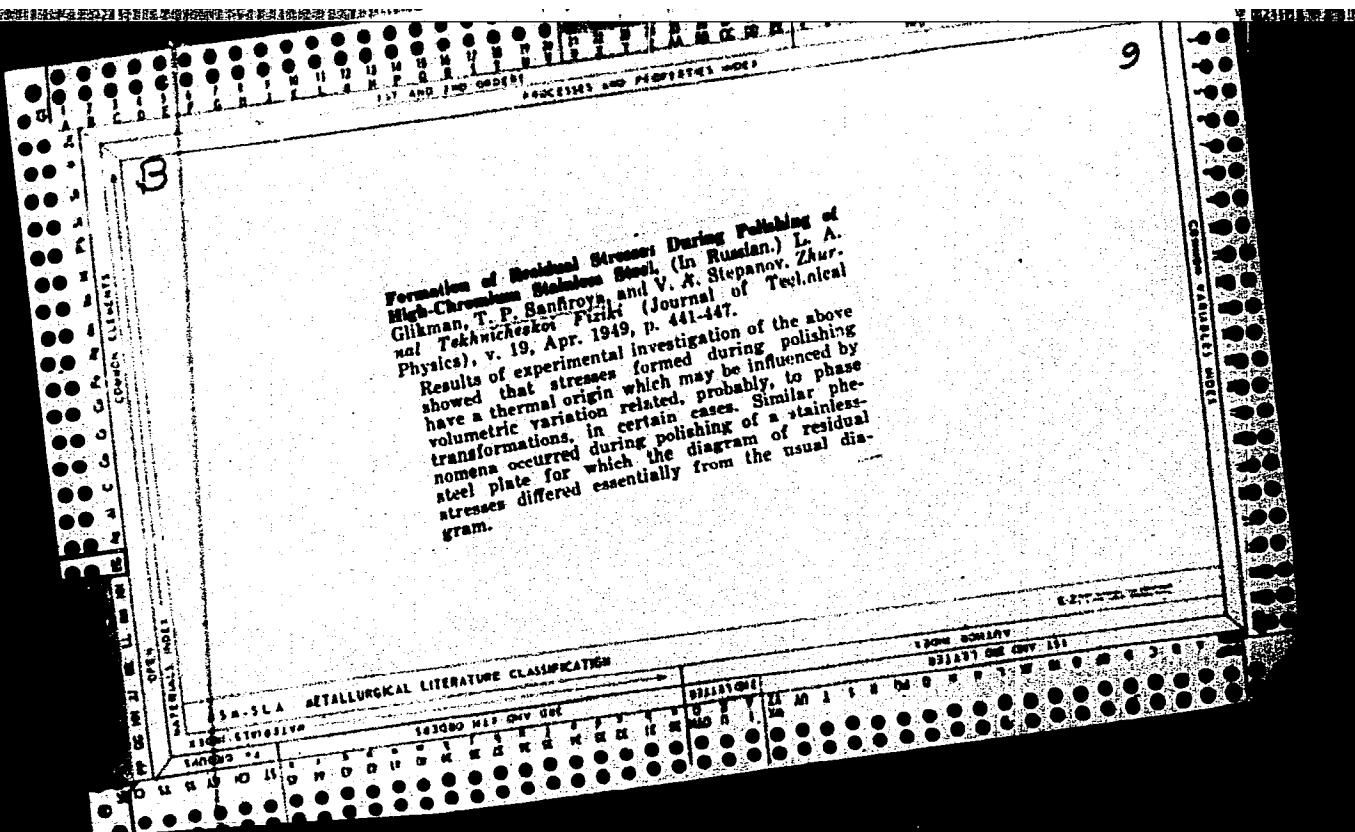
Established emergence of residual stresses for
carbon-steel samples under tension beyond the yield
point by changing sample forms, simplifying test-
ing method, and changing the plastic-deformation
38/49185

User/Engineering (Contd)

Mar 49

range. Confirmed conclusion obtained in previous
work on the existence of thin, weakened surface
layer. Submitted 25 Oct 48.

38/49185



SANFIROVA, T.P.

USSR/Physics - Metallurgy

Card 1/1 Pub. 22 - 11/51

Authors : Zhurkov, S. N., and Sanfirova, T. P.

Title : Temperature-time dependence of the strength of pure metals

Periodical : Dok. AN SSSR 101/2, 237-240, Mar 11, 1955

Abstract : Effect of the time factor in the mechanism of metal rupture is discussed. A new view point is presented according to which the rupture of the material is considered as a kinetic process of gradual disintegration of the body subjected to stress. Experiments were conducted with four polycrystalline metals: Zn, Al, Ag and Pt to determine the temperature/time relation to the strength of these metals. Results obtained are described. Nineteen references: 6 USA, 2 German and 11 USSR (1934-1955). Table; graphs.

Institution: Academy of Sciences, USSR, Physico-Technical Institute, Leningrad

Presented by: Academician A. F. Ioffe, January 3, 1955

AUTHORS: Zhurkov, S. N., Sanfirova, T. P.

SOV/57-58-8-19/37

TITLE: Relations Between the Strength and the Plasticity of Metals
and Alloys (Svyaz' mezhdu prochnost'yu i polzuchest'yu metallov
i splavov)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, № 8, pp. 1719 - 1726 (USSR) ²⁸

ABSTRACT: The course taken by the deformation versus time function in creep is usually divided into three stages: a non-steady, a steady and a stage with an increasing rate of creep. This is a study of the second stage with a constant rate of creep. In order to obtain more reliable data the range of creep rates under consideration was considerably increased. The equipment used in reference 5 was employed for this purpose. Some supplementary devices were used (for example a photoelectric deformation transmitter). The life of the samples was measured at various temperatures and stresses in the wide range of the steady creep rate (8 - 9 orders of magnitude). The creep rate and the failure period was determined by a stretching of the flat rectangular samples into the direction of one axis. The temperature and the stress were kept at constant values

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during the tests. The families of curves describing the variation of the life $\lg t$ and of the quasi viscous creep rate $\lg v$ upon the stress σ , are similar to each other. They are arranged in a fan-like fashion, originating from the pole. The life versus stress and the quasiviscous creep rate versus stress functions are described by formulae (2) and (2a), respectively, at constant temperature. This is found to be true for all metals and alloys under consideration. A systematic deviation, however, was found to be exhibited by the solid solution of aluminum with zinc at sufficiently high temperatures and at small stresses. The fact that this deviation occurs simultaneously in creep as well as in the time dependence of strength is a characteristic feature. From the evidence presented it is possible to determine the temperature dependence of quasiviscous flow and the failure period and to compute the activation energy of these processes. The two final formulae (4) and (4a) are deduced from formulae (2) and (2a). This relation is at variance with the results of J.E.Dorn' (Ref 4). According to the opinion of the authors the equality

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of the energy barrier in the process of destruction and in quasiviscous flow indicates a close relation between these two processes in which the velocity of one process is determined by that of the other. As the activation energy of the quasiviscous flow Q_v is of the same value as the sublimation energy and differs from the activation energy of self-diffusion the conception of assigning a pure diffusion mechanism to the second stage of creep becomes doubtful. By multiplying the right and left side, respectively, of the formulae (4) and (4a) $\tau_v = \tau_{v_0} A$ is obtained. This implies that the product of the failure period and of the rate of quasiviscous flow is a quantity independent of temperature and of stress. This dimensionless quantity permits to compute the life of the material under load and with very long failure periods. This is not possible by direct means. From the creep curve can be seen that the constant A is equal to the relative deformation ϵ_2 , which was accumulated during the second stage of creep. (The third stage was not within the scope of these investigations). There are 8 figures, 1 table, and 7 references,

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5 of which are Soviet.

ASSOCIATION: Leningradskiy fiziko-tehnicheskiy institut AN SSSR (Physical
and Technical Institute, Leningrad, AS USSR)

SUBMITTED: July 10, 1957

Card 4/4

81613

S/181/60/002/06/01/050
B122/B063

18.8200

AUTHORS: Zhurkov, S. N., Sanfirova, T. P.TITLE: Investigation of the Time- and Temperature Dependences of StrengthPERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1033-1039

TEXT: This is the reproduction of a lecture delivered at the All-Union Scientific Conference on the Physics of Strength which took place at Khar'kov on November 26, 1958. This article is a contribution to systematic investigations of the strength of solids. For the temperature dependence of the durability τ of a material under a load σ the authors

obtained the empirical formula $\tau = \tau_0 e^{\frac{u_0 - \gamma\sigma}{kT}}$ (1). The parameters of this equation (u_0 , τ_0 , γ) which determine the strength of a given material, are carefully studied on polycrystalline aluminum and zinc of variable grain size. The samples were produced by cold-hardening and subsequent

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Investigation of the Time- and Temperature
Dependences of Strength

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B122/B063

recrystallization tempering. Besides, the authors examined the effect of admixtures (magnesium to aluminum) upon the strength of this material. The methods used are described in Ref. 4. Figs. 1,2,4,5, and 6 show the functions $\tau(\sigma)$ for Al, Al + 2% Mg, and Zn for different experimental and recrystallization temperatures. It was found that both a change of the treatment temperature and a slight change of the chemical composition has no effect on u_0 , the barrier of activation energy of the tensile test, and τ_0 . For this type of dependence, equation (1) was set up in the following form for a constant experimental temperature:

$$\tau = Ae^{-\alpha\sigma} \quad (T=\text{const}) \quad (2), \quad A = \tau_0 e^{\frac{u_0}{kT}}, \quad \alpha = \frac{\gamma}{kT}.$$

All changes in the strength of the material caused by heat treatment are thus described by the parameter γ (Fig. 7). The authors were able to set up a quantitative relation between γ and the diameter d : $\gamma \sim \sqrt{d}$. In order to find out whether this is a direct relation or whether it reflects the fine structure of the grain, lattice imperfections, or the packet structure, the authors examined two samples of equal grain size, which

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81614

S/181/60/002/06/02/050

B122/B063

24.4100

AUTHORS: Zhurkov, S. N., Levin, B. Ya., Sanfirova, T. P.

TITLE: Temperature - Time Dependence of the Strength of Silver Chloride

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1040-1042

TEXT: The temperature - time dependence of the durability τ on the voltage applied σ with a change in the experimental temperature was studied on metals, melts, solid solutions, and polymers. In the article under review, the authors used a material with bound ions (AgCl polycrystal) to determine the constants U_0 (activation energy of the tensile test), τ_0 , and γ of the function $\tau = \tau_0 \exp\left(\frac{U_0 - \gamma\sigma}{kT}\right)$. The preparation of the samples and the experimental arrangement are described in the papers of Refs. 12 and 13. The tensile tests were made between 18°C and 200°C . Investigations revealed that the dependence of τ on σ is determined by the given and usual formula for metals and alloys. τ_0 likewise has the

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B122/B063Temperature - Time Dependence of the
Strength of Silver Chloride

order of magnitude of atomic natural oscillations in the crystal lattice.

U was determined from function $\lg\tau = f(\frac{1}{T})$, U_0 from $U = U_0 - \sigma\gamma$ and γ from $\lg\tau = f(\sigma)$ (Figs. 2,3,4). It was found that the same temperature-time function holds for materials with ionic bond as holds for metals and alloys. However, the significance of U_0 , which coincides with the sublimation energy in the latter, could not be fully clarified. The question remained unanswered, as to whether the coincidence of $U_0 = 31$ kcal/mole with the formation heat of 30.3 kcal/mole is casual, or whether there is a connection determining the mechanism of the rupture. There are 4 figures and 15 references: 10 Soviet, 2 German, and 1 British.

ASSOCIATION: Fiziko-tehnicheskiy institut AN SSSR Leningrad
(Physicotechnical Institute of the AS USSR, Leningrad) *✓*

SUBMITTED: August 18, 1959

Card 2/2

SANFIROVA, T. P.

Cand Tech Sci - (diss) "Study of metal strength as a function of time." Leningrad, 1961. 12 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Polytechnic Inst imeni M. I. Kalinin); 150 copies; free; (KL, 5-61 sup, 192)

33377
S/190/62/004/002/006/021
B110/B101

15 9300

AUTHORS: Zhurkov, S. N., Sanfirova, T. P., Tomashavskiy, E. Ye.

TITLE: Mechanical properties of rubbers at high stretching rates

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 2, 1962,
196 - 200

TEXT: Some natural and synthetic rubbers (kok-saghyz, butadiene styrene, chloro butadiene, nitrile rubber), as well as plasticized PVC were mechanically tested under rapid deformation by the authors' method (Zh. tekhn. fiziki, 23, 933, 1953); stretching was performed by a rotating flywheel. The force was measured with a capacity dynamometer of weak inertia and a rheochord with sliding contact. The simplified electric signals were recorded by an oscilloscope. The samples in the form of double shovels with a test length of 24 mm and a cross-sectional area of $\sim 3 \text{ mm}^2$ were stretched at room temperature at the rate of 0.2 cm/sec up to 31 m/sec. The mechanical characteristics of rubbers vary as dependent on filler and rubber type with changing stretching rate. With increasing stretching rate, the stretching diagrams keep their shape, the rubber modulus rises, and rupture stress and

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Mechanical properties of rubbers...

(3) section of high rates, where the strength is determined by the time dependence of the noncrystallizing rubber. The strength of samples slowly prestretched at 2 kg/mm^2 was nearly double. This proves the influence of crystallization on the deviations from the time dependence of strength. The strength of noncrystallized, unfilled CKC-30(SKS-30) rubbers increases over the whole range of stretching rates, but faster at high rates. Carbonblack-filled SKS-30 shows the same maximum as crystallized rubbers. Thus, the complex interaction of the filler with the rubber depends largely on the deformation rate. There are 6 figures and 7 references: 5 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: D. S. Villars, J. Appl. Phys., 21, 565, 1950; M. E. Acken, W. E. Singer, W. P. Davey, Industr. and Engng Chem. 24, 54, 1932. X

ASSOCIATION: Fiziko-tehnicheskiy institut AN SSSR (Physicotechnical Institute AS USSR)

SUBMITTED: February 7, 1961

Card 3/3

L 18003-63

EPR/EWT(d)/EWT(l)/EPF(n)-2/EWP(q)/EWT(m)/BDS AFFTC/

ASD/LJP(C)/SSD Ps-4/Pu-4 WW/JD/JG

ACCESSION NR: AP3001294

S/0181/63/005/006/1700/1705

AUTHORS: Sanfirrova, T. P.; Tomashevskiy, E. Ye.; Shurakov, S. A.

TITLE: Time dependence of the strength of aluminum¹ and silver¹ at low temperatures

SOURCE: Fizika tverdogo tela, v. 5, no. 6, 1963, 1700-1705

TOPIC TAGS: metal strength, Al, Ag, plastic deformation, rupture, failure

ABSTRACT: The authors undertook their study because they believed it would supply supplementary information important for understanding the essential process of failure. There has been no previous work on the life (under stress) of metals at such low temperatures. The principal measurements in this investigation were made on Al: at 291, 198, 123, 77, and 4.2K.¹ Times of rupture were measured in the range from 10^{-3} to 10^2 seconds. It was expected that the slope of curves relating these times (on the ordinate axis) to deforming stress (on the abscissa axis) would increase with decline in temperature. But the reverse was observed in the experiment, refuting the equation proposed to relate the two factors. The authors show that this deviation--the change in time dependence of strength¹ of Al and Ag at low temperatures--is associated with change in structure of the metals at low temperatures during plastic deformation preceding rupture. In conclusion the authors

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